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EXAMINER
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PYZOCHA, MICHAEL J

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2137

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

**MAILED**

**APR 27 2007**

Application Number: 09/916,929  
Filing Date: July 26, 2001  
Appellant(s): BARTON ET AL.

**Technology Center 2100**

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Kevin J. Zilka  
41,429  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 01/03/2007  
appealing from the Office action mailed 05/01/2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

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**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

20020194212	GRUPE et al.	12-2002
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WO 98/45778	ZUTA	10-1998
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Snavely, Allan; Tullsen, Dean "Symbolic Jobscheduling for a Simultaneous Multithreading Processor" Proceedings of ASPLOS IX, November 2000.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

Claims 1-2, 4-7, 8-13, 17-18, 20-24, 25-29, 33-35, 38-40, 42, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Grupe, U.S. Patent Application Publication No. 2002/0194212.

As per claims 1,17, and 33, the applicant describes a method of scanning data comprising the following limitations which are met by Grupe:

a) executing scanning control logic utilizing a central processing unit ([0008],[0009]);

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b) identifying a request related to data at the central processing unit ([0008],[0009]);

c) indicating the data to a scanning co-processor coupled to the central processing unit so that the data is scanned by the scanning co-processor under control of the scanning control logic ([0008],[0009]);

d) waiting for results from the scanning co-processor ([0008],[0009]);

e) executing additional logic utilizing the central processing unit while waiting for the results from the scanning co-processor ([0008],[0009],[0016]);

f) initiating an event based on the results from the scanning co-processor ([0015],[0017]);

g) wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit ([0008],[0009]);

h) wherein it is determined whether the data meets a predetermined criteria, where the criteria is based on a type of a file associated with the data ([0012],[0036]);

i) wherein the data is sent to the scanning co-processor if it is determined that the data meets the predetermined criteria ([0012],[0036]);

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j) wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor ([0009]).

As per claims 2 and 18, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the following limitation which is also met by Grupe:

Further comprising processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected ([0015], [0030]).

As per claims 4, 7, 20, and 23, the applicant describes the method of claims 1, 6, 17, and 22, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning control logic includes hardware ([0011]).

As per claims 5 and 21, the applicant describes the method of claims 3 and 20, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning control logic is stored on the scanning co-processor [0009].

As per claims 6 and 22, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the

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following limitation which is also met by Grupe: wherein the scanning control logic includes software [0011].

As per claims 8 and 24, the applicant describes the method of claims 1 and 17, which are met by Grupe, with the following limitation which is also met by Grupe: wherein the event is initiated under the control of the scanning control logic ([0010]-[0011], [0015]-[0016]).

As per claims 9 and 25, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning co-processor performs content scanning [0011].

As per claims 10 and 26, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning co-processor performs virus scanning [0011].

As per claims 11 and 27, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning co-processor includes memory [0016].

As per claims 12 and 28, the applicant describes the method of claims 11 and 27, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein virus signatures are stored in memory ([0011], [0028]).

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As per claims 13 and 29, the applicant describes the method of claims 11 and 27, which are met by Grupe (see above), with the following limitation which is also met by Grupe: wherein rule sets are stored in memory [0011].

As per claims 34 and 35, the claims repeat the limitations of claim 1, which is met by Grupe (see above), with the following additional limitations which are also met by Grupe:

j) initiating a security event upon the receipt of unfavorable results from the scanning co-processor including a situation where malicious code is detected ([0015],[0017]);

k) processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected ([0015]).

As per claim 38, the applicant discloses the method of claim 1, which is met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the criteria is further based on a user ([0036]);

As per claim 39, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the criteria is further based on software logic run by a bios ([0036]).



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As per claim 40, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning control logic is executed automatically [0009].

As per claim 42, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the scanning control logic is executed manually by a user [0028].

As per claim 44, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is also met by Grupe: wherein the central processing unit aids the scanning co-processor when a large amount of data is to be scanned [0016].

***Claim Rejections - 35 USC § 103***

Claims 3, 19, 36, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grupe in view of Zuta, International Publication No. WO 98/45778.

As per claims 3 and 19, the applicant describes the method of claims 1 and 17, which are met by Grupe (see above), with the following limitation which is met by Zuta: wherein the central processing unit is coupled to the scanning co-processor via a bus (Zuta: Fig 2).

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Grupe discloses all the limitations of independent claims 1 and 17. However, Grupe does not disclose that the CPU is coupled to the scanning co-processor via a bus.

Zuta discloses a similar anti-virus scanning system in which a supervisor computer (2 of Fig 2) monitors the data processed by the CPU of a first computer (11 of Fig 2) and intervenes to stop the CPU of the first computer if the supervisor computer thinks a virus might be present. Zuta also discloses that the CPU of the first computer and the scanning co-processor of the supervisor computer are coupled by a bus (17 of Fig 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to incorporate the ideas of Zuta with those of Grupe and add the use of a bus between the CPU of the first computer and the scanning co-processor of the second computer because a bus is a commonly used method of transmitting data between two units.

As per claim 36, the applicant describes the method of claim 35, which is met by Grupe (see above), with the following limitation which is met by Zuta: wherein the scanning information is updated via a network periodically (Zuta: Page 12, 2<sup>nd</sup> paragraph).

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As per claim 41, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is met by Zuta: wherein the scanning control logic is executed automatically when a computer is booted up (Page 24, lines 1-3).

As per claim 43, the applicant describes the method of claim 1, which is met by Grupe (see above), with the following limitation which is met by Zuta: wherein the scanning control logic is executed using software logic run by a bios (Page 24, lines 1-3).

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grupe in view of Snavelly, (Snavelly, Allan; Tullsen, Dean. Symbiotic Jobscheduling for a Simultaneous Multithreading Processor. Published in the Proceedings of ASPLOS IX. November 2000).

As per claim 37, the applicant describes the system of claim 35, which is met by Grupe (see above), with the following limitation which is met by Snavelly: wherein the additional logic to be executed and the additional data queued to be scanned are handled utilizing multi-threading algorithms (Snavelly: Abstract).

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Grupe discloses all the limitations of independent claim 35. However, Grupe fails to mention the use of multi-threading algorithms. Snavelly discloses that multi-threading algorithms are an effective way to "increase system utilization and speedup the execution of jobs" (Snavelly: Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was filed to incorporate the ideas of Snavelly with those of Grupe and use multi-threading algorithms because multi-threading algorithms are an effective way to deal with multi-job processing such as with additional logic to be executed or additional data queued to be scanned.

**(10) Response to Argument**Issue #1:

Rejection of claims 2, 18, and 34-37 under 35 USC 112, second paragraph.

Appellant argues the rejection of claims 2, 18, and 34-37 under the second paragraph of 35 USC 112 is improper. Appellant's arguments are persuasive and this rejection has been withdrawn.

Issue #2

Rejection of claims 1-2, 4-13, 17-18, 20-29, 33-35, 38-40, 42, and 44 under 35 USC 102(e) as being anticipated by Grupe.

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Groups #1: Claims 1, 4-7, 9-11, 13, 17, 20-23, 25-27, 29, 33, 40, and 42

Appellant argues Grupe fails to disclose the claimed technique "wherein the scanning co-processor is under the control of the central processing unit via the execution of the scanning control logic by the central processing unit". Appellant specifically argues that Grupe fails to disclose "the scanning co-processor is under the control of the central processing unit" However, Grupe discloses in paragraph [0009],

Embodiments of the invention **transfer data to be scanned from a source computer to a scanning computer. The scanning computer then scans the data** and creates a log file identifying portions of the data that have predetermined characteristics indicating a particular specified content. (emphasis added)

The sending of data from the source computer (i.e. the central processing unit) to the scanning computer (i.e. the co-processor) is an instruction to scan the data sent because the scanning computer scans the data as the next step after receiving the data. Since the scanning computer is instructed by the source computer to scan the data from source computer it is under the control of the source computer.

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Appellant argues Grupe fails to disclose the claimed technique "wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor". Appellant specifically argues that Grupe fails to disclose "[queuing] addition data to be scanned...**while** waiting for the results". However, Grupe discloses in paragraph [0034],

The scanning computer then scans the copied files for predetermined characteristics indicative of a banned file or a virus. Any files detected containing such characteristics are identified and details of these files are written to a log file. When all the copied files have been scanned the log file is sent back to the main computer.

In other words, Grupe discloses the files are sent and scanned by the scanning computer and once all the files have been scanned the log is sent to the source computer. Therefore, the files that have yet to be scanned are stored while waiting for the results because the results are not sent until all of the data has been scanned.

Group #2: Claims 2 and 18

Appellant argues Grupe fails to disclose "processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a

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situation where malicious code is not detected". Grupe discloses in paragraph [0030],

The backup system then scans (2) the copied data for predetermined characteristics which indicate a specific content, such as a virus or a worm. The backup system creates a log file and writes (3) details of such data to the log file. It then sends (4) the log file back to the live system. The live system then scans any live data that is indicated in the log file,

When the live system receives the log file containing a list of infected files, any file that is not on the list has favorable results. Therefore when the files copied from the live system to the backup system are the complete set of files stored on the computer (see paragraph [0031]), the files not in the log file would be utilized as normal by the live system.

Group #3: Claims 8 and 24

Appellant argues Grupe fails to disclose "wherein the event is initiated under the control of the scanning control logic". However, in paragraphs [0015] and [0016] Grupe discloses a computer program product comprising "a computer program operable to control a source computer to scan computer data" (paragraph [0015]) and "a computer program operable to control said source computer to transmit at least one further fraction of said data to at least one further scanning computer" (paragraph [0016]).

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Therefore, Grupe discloses initiating an event (the scanning of data) either by scanning the data itself (paragraph [0015]) or sending it to a scanning computer (paragraph [0016]) using scanning control logic (the computer program).

Group #4 Claims 12 and 28

Appellant argues Grupe fails to disclose "wherein virus signatures are stored in the memory". However, in order to make any type of comparison in a processor each value involved in this comparison must be stored in some type of memory because if both values were not stored, one value would not be available for comparison. Therefore, when comparing the files against virus definition profiles, both the file and the definition profiles must be held in memory.

Group #5 Claims 34 and 35

Appellant argues Grupe fails to disclose the claimed technique "wherein additional data to be scanned by the scanning co-processor is queued while waiting for the results from the scanning co-processor". Appellant specifically argues that Grupe fails to disclose "[queuing] addition data to be



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scanned...while waiting for the results". However, Grupe discloses in paragraph [0034],

The scanning computer then scans the copied files for predetermined characteristics indicative of a banned file or a virus. Any files detected containing such characteristics are identified and details of these files are written to a log file. When all the copied files have been scanned the log file is sent back to the main computer.

In other words, Grupe discloses the files are sent and scanned by the scanning computer and once all the files have been scanned the log is sent to the source computer. Therefore, the files that have yet to be scanned are stored while waiting for the results because the results are not sent until all of the data has been scanned.

Appellant argues Grupe fails to disclose "processing the data utilizing the central processing unit upon the receipt of favorable results from the scanning co-processor including a situation where malicious code is not detected". Grupe discloses in paragraph [0030],

The backup system then scans (2) the copied data for predetermined characteristics which indicate a specific content, such as a virus or a worm. The backup system creates a log file and writes (3) details of such data to the log file. It then sends (4) the log file back to the live system. The live system then scans any live data that is indicated in the log file.

When the live system receives the log file containing a list of infected files, any file that is not on the list has favorable

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results. Therefore when the files copied from the live system to the backup system are the complete set of files stored on the computer (see paragraph [0031]), the files not in the log file would be utilized as normal by the live system.

Group #6 Claim 38

Appellant argues Grupe fails to disclose, "wherein the criteria is further based on a user." In paragraph [0036] Grupe discloses, "embodiments of the above invention can be used to detect any content of a file that the user specifies". Therefore, the content that the user specifies is the criteria and since the user selected these criteria it is based on the user.

Group #7 Claim 39

Appellant argues Grupe fails to disclose, "wherein the criteria is further based on software logic run by a bios." In paragraph [0031] Grupe discloses, "The files copied from the source computer may be a complete set of files stored on the computer". Therefore, when all the files are sent as a criterion for scanning, the software logic that is run by a bios is included

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with these files and therefore the criteria is based on software logic run by a bios.

Group #8 Claim 44

Appellant argues Grupe fails to disclose, "wherein the central processing unit aids the scanning co-processor when a large amount of data is to be scanned." As described in paragraph [0016] of Grupe, "By dividing the data to be scanned into different fractions and sending each fraction to a different scanning computer, a scan can be performed in less time than it would take a single scanning computer." Since the source computer has "a computer program operable...to scan computer data", it is a scanning computer. Therefore, when the dividing as taught in paragraph [0016] is performed the source computer would also scan a fraction of the data in order to complete the scan during a slack period, such as overnight.

Issue #3

Rejection of claims 3, 19, 36, 41, and 43 under 35 USC 103(a) as being unpatentable over Grupe in view of Zuta.

Group #1 Claims 3, 19, and 43

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Appellant's argument that above claims have not been met by the prior art by virtue of the arguments made in Issue #2, Group #1 above is moot in view of the above response.

Group #1 Claim 36

Appellant's argument that above claims have not been met by the prior art by virtue of the arguments made in Issue #2, Group #5 above is moot in view of the above response.

Group #3 Claim 41

Appellant argues Zuta fails to disclose, "wherein the scanning control logic is executed automatically when a computer is booted." Zuta discloses on page 24,

At power-up the controller 21 loads known viruses pattern as well as sensitive operation which demand further scrutiny, like interrupts or file operations or I/O.

During normal operation thereafter, if a virus is detected then the monitoring means act promptly to stop the applications CPU through bus 247, to prevent damage. If a sensitive operation is detected in the monitoring unit, then the CPU is temporarily stopped and the controller 21 is prompted through bus 241 to perform a smart, in-depth analysis of the situation.

Therefore, when the system is powered up (i.e. booted up) the controller loads the necessary information to detect viruses and

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since the monitoring means is detecting viruses thereafter during normal operation, the scanning logic must also be loaded at power-up. Furthermore, on page 6 Zuta discloses "2. controller means 21 to: initiate the monitoring means at start-up", this initiating is the scanning control logic automatically being executed since the monitoring means is hardware.

Appellant argues the Examiner fails to cite specific motivation in the above references to support the case for combining the same. In response to Appellant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion; or motivation to do so found either in the references themselves or **in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). Since a bus is a commonly used method of transmitting data between two units this is motivation known to one of ordinary skill in the art.

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Rejection of claim 37 under 35 USC 103(a) as being unpatentable over Grupe in view of Snavelly.

Group #1 Claim 37

Appellant's argument that above claims have not been met by the prior art by virtue of the arguments made in Issue #2, Group #5 above is moot in view of the above response.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Michael Pyzocha

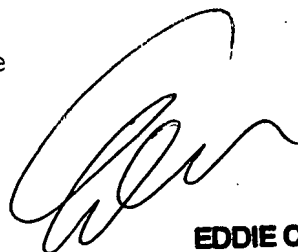


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